

Reading 19
**EXCHANGE RATE
CALCULATIONS**

1. (C) 0.70186.

Explanation

First, convert GBP/USD 0.7775 to $1/0.7775 = \text{USD/GBP } 1.28617$.

Then, divide USD/GBP 1.28617 by CAD/GBP 1.8325 = USD/CAD 0.70187.

(Module 19.1, LOS 19.a)

2. (C) premium of 1% to the GHI.

Explanation

The EUR is at a forward premium to the GHI because the EUR/GHI forward rate is less than the EUR/GHI spot rate. The base currency, GHI, is at a forward discount of $\text{forward/spot} - 1 = 4.2800 / 4.3250 - 1 = -1.04\%$. The EUR is at a forward discount to the DEF and forward premium to the JKL.

(Module 19.1, LOS 19.b)

3. (B) 1.3425, and the USD is at a forward premium.

Explanation

For an exchange rate quoted to four decimal places, each forward point represents 0.0001. The 6-month forward exchange rate is $1.3500 - 0.0075 = 1.3425 \text{ USD/EUR}$. The USD is expected to appreciate against the EUR and is trading at a forward premium.

(Module 19.1, LOS 19.b)

4. (B) greater than the 3-month JPY interest rate.

Explanation

$$\frac{\text{forwardJPY/ GBP}}{\text{spotJPY / GBP}} = \frac{(1 + \text{interest rateJPY})}{(1 + \text{interest rateGBP})}$$

If the no-arbitrage forward JPY/GBP rate is less than the spot rate, the interest rate for JPY must be less than the interest rate for GBP.

(Module 19.1, LOS 19.b)

5. (B) 3.00 ATH/MOR.

Explanation

The ATH/MOR cross rate = $9.00 \text{ ATH/GBP} \times (1 / 1.50) \text{ GBP/USD} \times (1 / 2.00) \text{ USD/MOR} = 3.00 \text{ ATH/MOR}$.

(Module 19.1, LOS 19.a)

6. (B) 0.6431.

Explanation

The one year forward rate is $0.6243 \times (1 + 0.03016) = 0.6431$.

(Module 19.1, LOS 19.b)

7. (B) 4.0000.

Explanation

Invert the first quote to read USD/GBP 0.5000. Then, $0.5000 \times 8.0000 = 4.0000 \text{ MXN/GBP}$.

(Module 19.1, LOS 19.a)

8. (A) 0.0227 PSG/TRT.

Explanation

The TRT/PSG cross rate is $5.5 \times 8.0 = 44 \text{ TRT/PSG}$. Because the answer choices are quoted as PSG/TRT, we need to invert this result: $1 / 44 = 0.0227 \text{ PSG/TRT}$.

(Module 19.1, LOS 19.a)

9. (A) 0.1432.

Explanation

The cross rate between USD and DKK is calculated in the following manner:

$$(\text{USD/JPY})(\text{JPY/DKK}) = (1 / 115.2200) \times 16.4989 = \text{USD/DKK } 0.1432$$

(the Yen cancels out)

(Module 19.1, LOS 19.a)

10. (A) 1.2761 USD/EUR.

Explanation

Each "point" is 0.0001. Thus, +12.4 points would add 0.00124 to the spot exchange rate:

$$1.2749 + 0.00124 = 1.27614.$$

(Module 19.1, LOS 19.b)

11. (B) risk-free interest rates.**Explanation**

Investing the domestic currency at the domestic interest rate should earn the same return as buying a foreign currency at the spot exchange rate, investing at the foreign interest rate, and selling the foreign currency proceeds at the forward exchange rate. If both currencies trade freely and participants can enter forward contracts, arbitrage trading will cause the percentage difference between the forward and spot exchange rates to be approximately equal to the difference between interest rates in the two countries.

(Module 19.1, LOS 19.b)

12. (C) premium of 110 points and the CAD is at a forward discount to the CHF.**Explanation**

Because the forward CAD/CHF exchange rate is higher than the spot rate, the quote is a forward premium. Forward points represent 0.0001 for an exchange rate quoted to four decimal places. Here, the forward discount is $1460 - 1350 = 110$ points. The base currency, the CHF, is at a forward premium to the CAD, therefore the CAD is at a forward discount to the CHF.

(Module 19.1, LOS 19.b)

13. (B) 1.2481.**Explanation**

The one year forward is $1.1132 + (1349/10,000) = 1.2481$.

(Module 19.1, LOS 19.b)

14. (B) greater than the G/H spot rate.**Explanation**

$$\frac{\text{forwardJPY/GBP}}{\text{spotJPY/GBP}} = \frac{(1 + \text{interest rateJPY})}{(1 + \text{interest rateJPY})}$$

If the interest rate in Country G is greater than the interest rate in Country H, the numerator is greater than the denominator on the right side of the equation. The left side must have the same relationship, so the forward rate must be greater than the spot rate.

(Module 19.1, LOS 19.b)

15. (C) 1.2029.**Explanation**

The forward rate for CHF/EUR is $0.8342 \times (1 - 0.00353) = 0.8313$. The 1-year forward EUR/CHF exchange rate is $1 / 0.8313 = 1.2030$.

(Module 19.1, LOS 19.b)

16. (B) 0.9850.**Explanation**

For an exchange rate quoted to four decimal places, forward points are expressed in units of 0.0001.

The 60-day forward rate is $0.9875 + 0.0001(-25) = 0.9850$.

(Module 19.1, LOS 19.b)

17. (C) is less than spot MNO/PQR.**Explanation**

Based on the no-arbitrage relationship between spot rates, forward rates, and interest rates, if the interest rate for the base currency is greater than the interest rate for the price currency, the forward exchange rate is less than the spot exchange rate.

(Module 19.1, LOS 19.b)

18. (C) 1.3333.**Explanation**

For the Level I CFA exam, we quote foreign exchange rates as units of the price currency per one unit of the base currency. Here we are given $\text{MXN/USD} = 8$ and $\text{PLN/USD} = 6$, and we are asked to calculate MXN/PLN .

The cross-rate $\text{MXN/PLN} = \text{MXN/USD} \times \text{USD/PLN}$, which equals $8 \times 1/6 = 1.3333$.

(Module 19.1, LOS 19.a)

19. (C) 1.7568.**Explanation**

$(\text{USD/CHF } 1.6250) / (\text{USD/CAD } 0.9250) = \text{CAD/CHF } 1.7568$

(Module 19.1, LOS 19.a)

20. (A) Japan is less than in the Eurozone.**Explanation**

If the quote is in terms of JPY per EUR, this implies that the JPY is expected to appreciate relative to the EUR. There will be no arbitrage opportunity only if the interest rate in Japan is lower than the interest rate in the Eurozone.

(Module 19.1, LOS 19.b)

21. (C) 0.6196.**Explanation**

For currency cross rate calculations, the recommended approach is to set up the given rates such that cross-multiplying will result in the exchange rate the

question is asking for. In this case, $\text{GBP/USD} = \text{GBP/CAD} \times \text{CAD/USD}$.

$$\text{GBP/CAD} = 1 / 2.5207 = 0.3967$$

$$\text{CAD/USD} = 1 / 0.6403 = 1.5618$$

$$\text{GBP/USD} = 0.3967 \times 1.5618 = 0.6196$$

Alternatively, $\text{USD/CAD} 0.6403 \times \text{CAD/GBP} 2.5207 = \text{USD/GBP} 1.6140$, and
 $\text{GBP/USD} = 1 / 1.6140 = 0.6196$.

(Module 19.1, LOS 19.a)

22. (C) 1.2055.

Explanation

The 90-day forward CHF/EUR exchange rate is $1.2025 \times 1.0025 = 1.20551$.
The EUR is at a forward premium to the CHF.

(Module 19.1, LOS 19.b)

